

AMENDMENT NO. 1 OCTOBER 2018
TO
IS 11948 : 2010 AUTOMOTIVE VEHICLES — STEERING EFFORT —
METHOD OF EVALUATION

(Second Revision)

(Page 1, clause 1.1) — Substitute the following for the existing clause:

‘1.1 This standard specifies the method of evaluation of steering efforts of automotive vehicles. This standard applies to the steering equipment of vehicles of categories M, N, T, L5 fitted with steering wheel and L7 as defined in IS 14272:2011.’

(Page 1, clause 2) — Substitute the following for the existing:

‘2 REFERENCES

The following standards contain provisions, which through reference in this text, constitute provisions of the standard. At the time of publication, the edition indicated were valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standard indicated below:

<i>IS No.</i>	<i>Title</i>
7079 : 2008	Automotive vehicles — Brake hose assemblies for hydraulic braking systems used with non-petroleum base brake fluid — Specification (<i>third revision</i>)
11852 : 2013	Automotive vehicles — Uniform provisions concerning the approval of vehicles of categories M, N and T with regard to braking
14272 : 2011	Automotive vehicles — Types — Terminology
15986 : 2015	Automotive vehicles — Uniform provisions concerning the approval of vehicles of categories M1 and N1 with regard to braking
ISO 2575 : 2004	Road vehicles — Symbols for controls, indicators and tell-tales’

(Page 5, clause 4.3.1.4) — Insert the following Note at the end of the clause:

‘NOTE — If this test has already been completed and complied as a part of brake performance evaluation as per applicable CMVR notified standard, the test need not be repeated for the purpose of compliance to this standard.’

(Page 5, clause 4.3.1.5) — Insert the following Note at the end of the clause:

‘NOTE — If this test has already been completed and complied as a part of brake performance evaluation as per applicable CMVR notified standard, the test need not be repeated for the purpose of compliance to this standard.’

(Page 5, clause 4.3.3.2) — Substitute the following for the existing clause:

‘4.3.3.2 In case of a failure within the control transmission, with the exception of those parts listed in 4.1.4, it shall still be possible to steer with the performance laid down in 5 for the intact steering system.’

(Page 6, clause 5.2.1) — Substitute the following for the existing clause:

‘5.2.1 It must be possible to leave a curve with a radius of 50 m at a tangent without unusual vibration in the steering equipment at the following speed:

- a) Category M1 vehicles: 50 km/h.
- b) Category M2, M3, N1, N2, N3, L5 fitted with steering wheel and L7 vehicles: 40 km/h or the maximum design speed if this is below the speeds given above.’

(Page 7, Table 1) — Substitute the following for the existing table:

Table 1 Steering Control Effort Requirement
(Clause 5.2.5.2)

Sl No.	Vehicle Category	Intact			With a Failure		
		Maximum Effort	Time	Turning Radius	Maximum Effort	Time	Turning Radius
		daN	s	m	daN	s	m
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
i)	M1 and L7-M	15	4	12	30	4	20
ii)	M2	15	4	12	30	4	20
iii)	M3	20	4	12 ¹⁾	45 ²⁾	6	20
iv)	N1, L5 fitted with steering wheel and L7-N	20	4	12	30	4	20
v)	N2	25	4	12	40	4	20
vi)	N3	20	4	12 ¹⁾	45 ²⁾	6	20

¹⁾ Or full lock, if 12 m radius is not attainable.

²⁾ 50 for rigid vehicles with 2 or more steered axles excluding self-tracking equipment.

(Page 8, clause 7.3) — Substitute the following for the existing clause:

‘7.3 Changes where testing is considered necessary for establishing compliance to this standard are as follows:
a) Any increase of weight on steered axle in excess of 10 percent in case of M1, N1, L5 fitted with steering wheel and L7 type of vehicles and 5 percent for other vehicles.

b) Any increase in wheel base in excess of 10 percent in case of M1, N1, L5 fitted with steering wheel and L7 type of vehicles and 5 percent for other vehicles.’

(Page 8, Table 2) — Substitute the following for the existing table:

Table 2 Service Braking Performance
(Clause A-2)

Sl No.	Category	V km/h	m/s ²	F daN
(1)	(2)	(3)	(4)	(5)
i)	M1 and L7-M	100 ¹⁾	6.43	50
ii)	M2 and M3	60	5.0	70
iii)	N1 (As per IS 11852)	80 ¹⁾	5.0	70
iv)	N1 (As per IS 15986)	100	6.43	50
iv)	N2 and N3	60	5.0	70

¹⁾ Test speed *V* shall be 90 percent of *V*_{max}, if vehicle maximum speed is less than these values.

NOTE — The above said limits of service brake performance tests shall be applicable on and after IS 15986 : 2015 is implemented for M1 and N1 category. Till such period manufacturer may follow either above said limits or limits of prevailing brake performance standard applicable at that time.

(Page 9, Table 3) — Substitute the following for the existing table:

Table 3 Secondary and Residual Efficiency
(Clause A-3)

Sl No.	Category	V km/h	Secondary Braking	Residual Braking
(1)	(2)	(3)	(4)	(5)
i)	M1	100 ¹⁾	2.44 ¹⁾	--
ii)	M2	60	2.5	1.5
iii)	M3	60	2.5	1.5
iv)	N1 (As per IS 11852)	70	2.3	1.3
v)	N1 (As per IS 15986)	100 ¹⁾	2.44 ¹⁾	--
vi)	N2	50	2.2	1.3
vii)	N3	40	2.2	1.3

¹⁾ Test speed V shall be 90 percent of V_{\max} , if vehicle maximum speed is less than these values.

NOTE — The above said limits of Service brake performance tests shall be applicable on and after IS 15986 : 2015 is implemented for M1 and N1 category. Till such period manufacturer may follow either above said limits or limits of prevailing brake performance standard applicable at that time.